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December 6, 2017 1700 EDT

HURRICANES IRMA AND MARIA MANAGEMENT REPORT

Information contained in this report reflects HQ and regional reporting from the most recently completed operational period as well as other reports provided by HQ, regional and interagency sources.

National Incident Management Objectives

Objective 1: Ensure that health and safety of the EPA responders is considered at all times.

Objective 2: Establish an incident management structure and processes employing the Incident Command System to enable effective overall management of the event with deployment of resources (staff and equipment) in a rapid, aggressive and well-coordinated manner.

Objective 3: Ensure prompt review and processing of fuel waiver requests.

Objective 4: Prepare for and provide rapid assessment of industrial facilities as requested by the State or under EPA's statutory program responsibilities for CERCLA Superfund, RMP and FRP facilities. Working with our state partners, contact industrial sources within the impacted area to determine their operational status and determine what support can be provided with the monitoring of the start-up of industrial sources.

Objective 5: Prepare for and provide rapid assessment of & technical assistance to drinking water & wastewater facilities, as requested by the State or local government. EPA will support our state partners in contacting drinking water and wastewater systems.

Objective 6: Prepare a Sustained Response Plan that outlines the resource and equipment needs for a long duration response.

Objective 7: Activate the Agency's Crisis Communication Plan to ensure effective and efficient coordination of all incident communications.

Objective 8: Encourage a collaborative federalism approach, where national, state and local governments interact cooperatively and collectively to solve common problems.

Objective 9: Begin Agency internal and external coordination under the National Disaster Recovery Framework regarding Recovery Support Functions in which EPA is likely to be involved.

Region 2 Incident Objectives

- The health and safety of our responders is our highest priority. Develop health and safety messages daily for all field operations;
- Ensure health and safety of the public by conducting environmental assessments and operating in accordance with approved site safety plans;
- Continue coordination with OSCs deployed at the FEMA JFO in San Juan, PR;
- Continue coordination with OSCs deployed to the JFO on St. Croix;
- Coordinate with CEPD, prioritize and perform drinking water and waste water assessment targets in Puerto Rico and the USVI;
- Continue integrating Puerto Rico Department of State (PRDOS), Puerto Rico Department of Justice (PRDOJ), and Non-Governmental Organization (NGO) personnel into the non-PRASA assessment teams;
- Coordinate all field activities with CEPD program office staff and FEMA division coordinators. Support CEPD operations that are within the scope of the FEMA mission assignments;
- Support USCG sunken vessel recovery operations and coordinate operations with ESF10 partner USCG;
- Coordinate and prepare for air monitoring operations in support of the USACE air curtain incineration operations in Puerto Rico and the USVI;
- Continue coordination in support of the collection of household hazardous waste/ e-waste/ white goods in Puerto Rico and the USVI;
- Continue coordination in support of removal and disposal of medical wastes in the USVI;
- Continue drinking water sampling as coordinated and prioritized with DPNR in the USVI; and
- Continue developing and implementing a full staffing plan to increase the response effort to meet the FEMA mission assignments and then for continuous operation in Puerto Rico, USVI, and in the REOC.

Executive Summary

Region 2

- Power remains out for a large percentage of the residents of Puerto Rico (PR) and the United States Virgin Islands (USVI). In PR, improvements are frequently offset by collapses in parts of the power system. USVI anticipates restoration of power to 90% of clients by the end of December 2017. PR Governor Rossello has set a goal for end of December for PR as well, but the United States Army Corps of Engineers (USACE) doubts this schedule can be met. USACE considers 75% restoration by late January a more likely timeframe.
- The Puerto Rico Electric Power Authority (PREPA) reports that 31.6% of its facilities are without power generation capacity in PR.
- In PR, about 8% of the population is still not receiving drinking water through the utility system. Comparable data for the USVI is not available, but the population is reportedly being provided with adequate supplies of drinking water.
- Initial assessments at all regulated facilities in PR and USVI are complete.
- In PR, 4% of the sewage treatment plants are still not operational. Numerous raw sewage discharges entered waterways upstream of drinking water intakes. EPA, the Centers for Disease Control (CDC), and PR Department of Health (DOH) advised residents not to bathe in surface waters.
- EPA continues to coordinate with the FEMA, USACE, the Commonwealth of PR, and other partners on field operations, assessment of fixed facilities, debris management, drinking water infrastructure, and data management. EPA is coordinating with USCG for Marine Branch operations and hazardous material related to sunken vessel recovery. EPA performed data management of vessel records.
- PR Governor Rosselló and PRASA President Eli Diaz announced that PRASA's wastewater plants in Culebra and Vieques are now fully powered by solar panels and storage batteries thanks to a public-private alliance with Tesla.
- EPA's debris mission is progressing: many staging areas are now in operation, and more are being identified and opened. Over 40,540 household hazardous waste (HHW) and orphan containers, and many white goods and electronics waste (e-waste) items, have been collected to date; and, in the USVI, large quantities of medical waste are being managed.

[Region 4 reports only on Tuesdays. This information is current as of **December 5th**]

Region 4

- To date, EPA Region 4 has recovered **138** vessels in the Marathon Key area and transported them to Florida Fish and Wildlife Commission (FWC) staging areas. EPA estimates that **2** vessels remain to be addressed within EPA's area of responsibility (AOR). Currently, EPA vessel recovery operations are limited to private canals in Sector Key West. **The USCG will continue vessels operation as EPA begins its demobilization during the next reporting period.**

Active Regional Mission Assignments (MAs) and Funding

FEMA plans to extend all current Region 2 MAs through February 28th, with no additional funding planned at this time.

EPA Region	Mission Assignment Number	Funding Amount	Description of Assignment
Region 2	4339DR-PR-EPA-04	\$6,000,000	To deploy personnel to coordinate and execute all necessary assessments, evaluations, sampling and analysis services/support and other necessary actions associated with ensuring the safety and quality of DW and WW systems, in support of PRASA, Puerto Rico Department of Health (PRDOH).
	4335DR-VI-EPA-04	\$10,000,000	Conduct oil and hazardous materials field operations, including cleanup and disposal of hazardous materials and oil, and response to orphaned containers in order to mitigate actual and potential threats to public health and safety.
	4339DR-PR-EPA-01	\$603,000	EPA to FEMA NRCC or PR JFO/EOC EPA requested additional funding for MA 4339DR-PR-EPA-01.
	4339DR-PR-EPA-03	\$23,000,000	Removal, cleanup and disposal of oil and hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in PR
	4340DR-VI-EPA-05	\$8,000,000	Removal, cleanup and disposal of oil & hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in the VI
	4340DR-VI-EPA-06	\$1,800,000	Coordinate/Execute all necessary assessments, evaluations, sampling and analytical services/support to ensure the safety and quality of public drinking
	4340DR-VI-EPA-01	\$255,000	EPA to FEMA NRCC or USVI JFO/EOC
	4340DR-VI-EPA-04	\$5,300,000	EPA to RRCC, JFO, EPA REOC, State EOC and other coordination venues to support FEMA response operations in the USVI.
Region 4	4337DR-FL-EPA-14-01	\$12,049,231	Provide oil and hazardous material field response
	4337DR-FL-EPA-15	\$408,814	Landfill Specialty Team
Total Active MAs	\$67,416,045		

Total Number of Regional Personnel Involved in Response (as reported on by Region 2 on December 6th and Region 4 on December 5th)

Type	R2 Personnel	R4 Personnel	Total Regional Personnel
EPA*	181	13	194
Contractors	184	47	231
Totals	365	60	425

**These numbers include Region 2 CEPD personnel*

Force Laydown for USVI and PR (as reported by Region 2 on November 6th)

Type	USVI Personnel	PR Personnel	Total Deployed
EPA*	32	74	106
Contractors	102	82	184
Totals	134	156	290

**These numbers include Region 2 CEPD personnel*

Region 2 Significant Activities

- On November 28th, EPA participated in a meeting on thermal reduction for vegetative debris in PR to answer questions from the PR National Guard, responsible for Camp Santiago, a site under consideration for reducing the volume of debris.
- EPA participated in a FEMA-organized meeting on power grid issues at the request of FEMA.
- FEMA and USACE set December 12th as the potential date to commence thermal reduction operations on STX. There is no set date for vegetative debris burn operations on STT. Operations pend a decision by the Governor and resolution of recent proposed USVI legislation prohibiting large scale burning of vegetative debris during post storm disasters Per the Governor's direction no incineration of vegetative debris will occur on STJ. Instead the plan is to put mulch/chipped material into gabion baskets.
 - In USVI, EPA attended the Department of Public Works (DPW) meeting with DPW Director, Water and Power Authority (WAPA), USACE and FEMA. Discussions occurred regarding the proposed "Burning Ban," which will prohibit large-scale burning of vegetative debris across USVI. USACE indicated that they are still moving forward in getting the permits approved, and EPA assured the group that air monitoring support will be available when needed.
- EPA continues to coordinate with Puerto Rico Department of Health (PRDOH), PR EQB, and the Puerto Rico Aqueduct and Sewer Authority (PRASA) regarding analytical laboratory services. A FEMA MA is in place to assist with funding the PR EQB and PRDOH labs with needed repairs, supplies, equipment, and personnel to come back into service.
 - The EQB Laboratory analyzed the first batch of microbiological samples received since Hurricane Maria made landfall. Samples were from public beaches located throughout the island. Results will be available following the necessary 24-hour incubation timeframe.
 - At the EQB laboratory, EPA, FEMA, and USACE performed maintenance on the generator. No significant issues have been noted since the replacement of the previous generator on November 28th.
 - Equipment and supplies arrived for the construction of the concrete pad designed to hold the emergency generator. Heavy equipment needed to prepare the ground surface is scheduled to arrive on December 6th.

- EPA held a HHW collection event at Cheeseburger in America's Paradise in Christiansted, STX. The event was a success, collecting 262 containers of 1 gallon or less, 23 5-gallon containers, 26 batteries, 2 pallets of e-waste, 4 propane cylinders, and 4 miscellaneous items.

Dorado Groundwater Contamination Superfund Site Update

On October 20th and again on November 6th, EPA conducted additional samples at the Dorado site to validate earlier results. EPA water sample results show there are no exceedances of drinking water standards at the Dorado Groundwater Superfund site in Puerto Rico. The data has been uploaded to the EPA Hurricane Maria public website at: <https://www.epa.gov/hurricane-maria>. EPA will no longer include information on Superfund NPL, Superfund Removal, and Oil Removal sites in this report.

Total Region 2 Drinking Water/Wastewater (DW/WW) Assessments

Drinking Water and Wastewater Assessments (as of December 6 th)		
Assessment Types	Total Assessments on PR	Total Assessments on USVI
On-Site DW Assessments	284	1367
On-Site WW Assessments	233	33

Drinking Water/Wastewater (DW/WW) Assessments in PR

EPA is now coordinating a field assessment team to visit up to seven non-PRASA drinking water systems that need infrastructure repairs. Entities involved include EPA/CEPD, USACE, FEMA, Weston RST, and potentially NGOS that have been previously engaged in assessment activities.

EPA staff are also participating in ongoing PRASA water treatment plants (WTPs) and wastewater treatment plant (WWTPs) assessments:

- 11 of the 115 WTPs operated by PRASA are out of service.
- 69 WTPs are working on alternate power or primary power.
- 7.55% of the population is without drinking water services due to the lack of primary power, lack of diesel, operational problems, or clogged intakes.
- Non-PRASA drinking water facilities serve approximately 4% of the PR populations (PRASA systems service the other 96%). EPA worked with PR Department of Health, the Department of Defense (DOD), Health and Human Services (HHS), and FEMA to assess the 237 non-PRASA drinking water systems throughout PR.
- 2 of the 51 WWTPs operated by PRASA are out of service.
- 21 WWTPs are working on primary power
- Out of PRASA's 51 facilities, 2 WWTPs are non-operational and upstream of a drinking water intake.
 - Utua (2.0 MGD) - Main trunk sewer collapsed, no sewage reaching the plant. A contractor is on site.
 - Ciales (1.5 MGD) - Main trunk sewer collapsed, no sewage reaching the plant. A contractor is on-site.
- PRASA operates at least 714 sanitary pump stations. As of December 6th, at least 94 sanitary pump stations are overflowing sewage due to lack of power, malfunctioning power generators, or pumping problems. 35 of these are located upstream of a water supply intake.

Drinking Water/Wastewater Assessments in USVI

- DPNR has suspended the compliance monitoring required for public water systems under the Territorial Safe Drinking Water Regulations during this hurricane aftermath emergency period. Currently, DPNR anticipates this suspension to last through December 2017. During the emergency period EPA and DPNR are sampling public water systems and some other facilities (limited number) by special request.

- Ocean System Labs is producing data deliverables and reporting to DPNR and EPA. EPA's contractor, Weston, is tabulating the data into a database of sampling results for each district. This database will be shared with the Agency's partners. Data is updated to the database as it becomes available from the lab.
- EPA and/or DPNR is providing notification of results to the water systems. This notification includes a cover letter (DPNR letterhead), data sheet from the lab, fact sheet on cistern disinfection and a public notification for posting (for E. Coli positive results only- 2 consecutive samples).
- EPA and/or DPNR is providing technical assistance to water systems that fail for E. Coli. EPA and DPNR have submitted a mission assignment request to FEMA for disinfection equipment to support public water systems including Chlorox for disinfection and Hach chlorine residual kits for problem facilities.
- In USVI, EPA has assessed 191 non-utility drinking water systems, 182 of which are operational.
- All 8 WWTPs are in service.
- USVI owns and operates 30 lift stations, 2 of which are out-of-service.

PR and USVI Debris Recovery

- While U.S. Army Corps of Engineers (USACE) completes the permit process for several locations for debris collection staging areas in PR, EPA is coordinating with PREQB, the Puerto Rico Industrial Development Company (PRIDCO), and individual municipalities to establish temporary hazardous materials collection areas. EPA, along with USACE and PREQB, is visiting the proposed staging areas, as well as established municipal collection areas.
- There are 19 approved staging/disposal areas for HHW in PR and 7 approved staging areas for HHW in USVI. EPA received EQB waivers for the EPA Collection Pads in Salinas and Guayanilla.
 - EPA moved the Toa Baja CVS pad to a new location at the request of the Army Corp of Engineers on December 12th.
 - On December 2nd, EPA met with the Mayor of Loiza to discuss the Loiza staging pad. Vegetative debris needs to be moved off the pad and dust suppression should be performed. The mayor agreed to provide both these services.
 - EPA visited the Maunabo, Humacao, Naguabo, Las Piedras, Juncos, Guarabo, Cayey, Coamo, Santa Isabel, Arroyo, and Aguas Buenas municipal pads for situational awareness and assessment.
- In USVI, EPA and its contractors continue medical waste management efforts. As of December 3rd, there are 417 bags of normal medical waste and 1047 sharps containers pre-staged for future removal (rad screened and segregated) on STX. On STT and STJ, a full container of medical waste (a 20" trailer) was picked up on November 29th for off-island shipment.
- On STT and STJ, HHW efforts continue.
 - Electronics waste (e-Waste) removal continues at the University of Virgin Islands.
 - Waste bulking continues at Bovoni Landfill HHW processing pad, and packing continues at St. Thomas Industrial Park e-Waste processing pad.

Orphan Container, Pollution Response, and Vessels in PR and USVI

- As of December 6th, EPA Region 2 had removed a total of 10,256 containers in PR and 7,266 in USVI. The Oil Pollutants Act and Comprehensive Environmental Response, Compensation, and Liability Act items that USCG contractors removed are currently being stored on their barge. EPA plan to assume management of these materials in the future. EPA and USGS assessed the Puerto del Ray vessel drop off point and surveyed previously identified vessels to monitor changes in status.

Vessel Assessments (as of December 6 th)		
Location	Vessels Assessed	Vessels Closed
Puerto Rico	358	150
U.S. Virgin Islands	464	126

Region 4 Significant Activities

Orphan Container, Pollution Response, and Vessels in Florida

- To date, EPA has collected 722 orphan containers, including drums, oil containers, and propane tanks. These items are being stored for waste stream categorization at the container staging area at the Florida Keys Marathon International Airport (MTH) and await repackaging prior to recycling or disposal at an offsite location.

Total Containers Collected (as of November 14 th)	
Container Type	Total Collected
Tanks > 100 gallons	49
55-gallon drums	208
Propane tanks	231
Refrigerant tanks	22
Oil and gas containers	103
Haz-labeled containers	23
Paint and coatings containers	17
Uncategorized containers	69
Total	722

Combined EPA and USCG Vessel Operations Tracking (as of December 5 th)			
USCG Sector	Vessels Identified ²	Vessels Completed ³	Vessels Remaining
Jacksonville	204	115	89
Key West ⁴	1808	1500	308
Miami	311	185	126
St. Petersburg	302	270	32
Total	2625	2070	555

1. As reported by USCG Sector Key West

2. Table lists confirmed targets. Unified Command has identified over 3,000 potential targets for assessment

3. Removed by UC or 3rd party, transferred to FWC, or determined no further action necessary

4. Includes EPA and USCG vessel operations

EPA Headquarters Significant Activities

- The Headquarters Emergency Operation Center (HQ EOC) has been assigned recurring positions to fill and is supplying personnel to support the Region 2 response.
- EPA finalized the story map on the Hurricane Maria Response:
<https://epa.maps.arcgis.com/apps/MapJournal/index.html?appid=051533ab716c4f5e821dc361cbb1876f>.
- HQ EOC is operating under a partial activation in support of regional response efforts to Hurricanes Irma and Maria. The HQ EOC is physically staffed with 4 EPA personnel and 1 contractor and is coordinating on several levels with EPA Regions 2 and 4, as well as other federal agencies.

- EPA Senior Management on the Policy Coordination Committee (PCC) are holding weekly calls to discuss issues, highlights, and adherence to the management objectives.

Community Involvement Activities

- In USVI, Community Involvement Coordinators (CICs):
 - distributed 250 flyers at Home Depot for the December 9th event and met with Home Depot managers on site to discuss location and staging of event.
 - dropped off 300 flyers to Saint Croix High School and met with Principal for distribution to all of the students.
 - coordinated e-Waste pickup at Family Resource Center with HHW team.
- In PR, CICs:
 - participated in the radio show “Lajas Informa.” The host of the show is the municipality’s mayor Marcos “Turin” Irizarry. The CICs explained the mission of EPA, its mission in the island, the HHW and the e-waste program. The mayor was appreciative of EPA and other federal agencies’ assistance.
 - attended a public event in Patillas on December 2nd where the city distributed food and supplies to City residents in the town’s plaza. Approximately 400 residents attended the event. City official made the commitment to provide information to residents promoting the segregation of HHW.
 - conducted community outreach in Naguabo, Las Piedras, Penuelas, Mayaguez, and Cayey.

Other EPA Activities

- EPA will appear on a radio talk show on 970 AM in STX on December 9th.
- EPA is evaluating a variety of force majeure claims from a number of entities in PR and USVI on a case-by-case basis and preparing responses as appropriate.
- Region 2, Region 4, and HQ activities related to Irma and Maria response efforts are available at: www.epa.gov/hurricane-irma and www.epa.gov/hurricane-maria, respectively.
- Members of the public can call 1-888-283-7627 (which has English and Spanish capabilities) with questions about household hazardous waste.
- On October 6th, EPA HQ issued NAA to PREPA to provide relief from certain Clean Air Act requirements, including emission limits, hours of operation limits, fuel usage restrictions, and restrictions on the shutdown or bypass of pollution control equipment for most of their electric generating units operating in PR. EPA reissued the NAA on November 17th; the new expiration date is January 1st.